

## WELD JOINING METHOD OF STEEL MATERIAL SUPERIOR IN ARREST PROPERTY

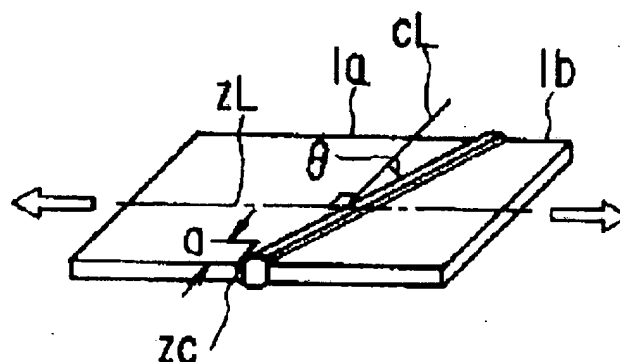
**Patent number:** JP2000158127  
**Publication date:** 2000-06-13  
**Inventor:** AZUMA SEIZABURO; SUZUKI TAKAHIKO; INOUE TAKEHIRO; KOSEKI TOSHIHIKO  
**Applicant:** NIPPON STEEL CORP  
**Classification:**  
- **international:** B23K9/00; B23K33/00; B23K103/04  
- **european:**  
**Application number:** JP19980339896 19981130  
**Priority number(s):** JP19980339896 19981130

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### Abstract of JP2000158127

**PROBLEM TO BE SOLVED:** To provide a weld joining method of a steel material superior in arrest property by which a weld joining part is obtainable in a way that an outlookng, fixing is good and brittleness rupture can be prevented at low cost.

**SOLUTION:** When a steel material superior in arrest property is welded, the spreading of brittleness cracking is stopped by means of an arrest property base metal by setting a welding line with an angle of 20 degrees or more against a line orthogonal to a material axis, or crocked at more than two points. In this case, the method is applied when, for example, a Ni inclusive steel, whose toughness value Kc at the lowest using temperature is 300 kgf/mm<sup>1.5</sup> or more, or a steel whose surface layer is ultra fine grain and the like is used as a steel material superior in arrest property.

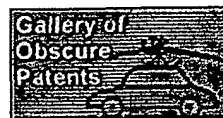
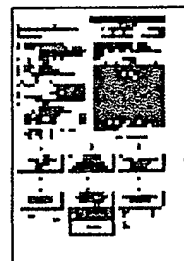


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**DELPHION****RESEARCH****PRODUCTS****INSIDE DELPHION**[My Account](#)Search: [Quick/Number](#) [Boolean](#) [Advanced](#) [Derwent](#)[Help](#)**The Delphion Integrated View**Get Now: ☒ [PDF](#) | [More choices...](#)Tools: Add to Work File: [Create new Work File](#) View: [INPADOC](#) | Jump to: [Top](#)  Go to: [Derwent](#)☒ [Email this to a friend](#)**Title: JP2000158127A2: WELD JOINTING METHOD OF STEEL MATERIAL SUPERIOR IN ARREST PROPERTY****Derwent Title:** Welding steels with excellent crack arresting property, involves making weld line inclined to line which crosses joining direction of welded materials orthogonally [\[Derwent Record\]](#)**Country:** JP Japan**Kind:** A2 Document Laid open to Public inspection <sup>1</sup>**Inventor:** AZUMA SEIZABURO;  
SUZUKI TAKAHIKO;  
INOUE TAKEHIRO;  
KOSEKI TOSHIHIKO;**Assignee:** NIPPON STEEL CORP  
[News, Profiles, Stocks and More about this company](#)**Published / Filed:** 2000-06-13 / 1998-11-30**Application Number:** JP1998000339896**IPC Code:** [B23K 9/00](#); [B23K 33/00](#); [B23K 103/04](#);**Priority Number:** 1998-11-30 JP1998000339896**Abstract:** PROBLEM TO BE SOLVED: To provide a weld joining method of a steel material superior in arrest property by which a weld joining part is obtainable in a way that an outlookng, fixing is good and brittleness rupture can be prevented at low cost.

SOLUTION: When a steel material superior in arrest property is welded, the spreading of brittleness cracking is stopped by means of an arrest property base metal by setting a welding line with an angle of 20 degrees or more against a line orthogonal to a material axis, or crocked at more than two points. In this case, the method is applied when, for example, a Ni inclusive steel, whose toughness value Kc at the lowest using temperature is 300 kgf/mm1.5 or more, or a steel whose surface layer is ultra fine grain and the like is used as a steel material superior in arrest property.

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**Family:** None**Other Abstract Info:** CHEMABS 133(03)033057S CHEMABS 133(03)033057S [DERABS C2000-445948](#) [DERABS C2000-445948](#)[Nominate](#)[this for the Gallery...](#)[View Image](#)

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Derwent Title: **Welding steels with excellent crack arresting property, involves making weld line inclined to line which crosses joining direction of welded materials orthogonally**

Original Title: ☒ **JP2000158127A2: WELD JOINTING METHOD OF STEEL MATERIAL SUPERIOR IN ARREST PROPERTY**

Assignee: **NIPPON STEEL CORP** Standard company  
Other publications from [NIPPON STEEL CORP \(YAWA\)](#)...

Inventor: **None**

Accession/Update: **2000-445948 / 200039**

IPC Code: **B23K 9/00 ; B23K 33/00 ; B23K 103/04 ;**

Derwent Classes: **M23; P55;**

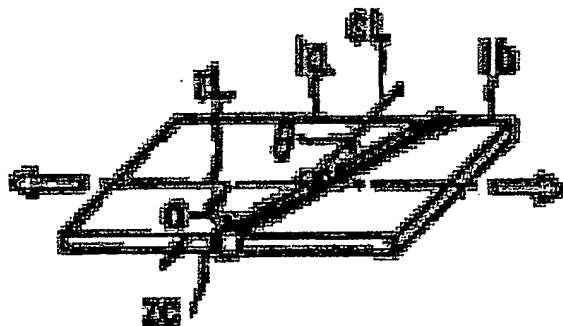
Manual Codes: **M23-D01A(Arc welding/cutting, plasma arc - methods [general])**

Derwent Abstract: ([JP2000158127A2](#)) **Novelty** - The weld line between the welded materials (1a,1b) is made to be inclined to a line which crosses the joining direction of the welded materials orthogonally in case steel materials which have an excellent arrest property are welded.

**Use** - For weldbonding of steel materials having excellent arrest property such as Ni content steel, surface layer ultrafine particle steel etc. used for the buildup of structural members in construction of steel structures.

**Advantage** - The generation of brittle fracture at a welded joint can be prevented when welding steel materials excellent in arrest property since the weld line is inclined to a line which crosses the joining direction orthogonally. The transmission of a brittle crack can be arrested within a short length of less than 10 mm. The plastic deformation capability of structural members of construction or construction structures can be improved. The earthquake resistance of construction structures can be enhanced.

Images:



**Description of Drawing(s)** - The drawing is an explanatory diagram showing the formation of a graded junction part between thick steel plates having excellent arrest property.  
Welded materials 1a,1b Dwg.2/15

Family: PDF Patent Pub. Date Derwent Update Pages Language IPC Code  
☒ [JP2000158127A2](#) \* 2000-06-13 200039 8 English B23K 9/00  
 Local appls.: .....

Priority Number:

Application Number	Filed	Original Title

JP1998000339896

1998-11-30

WELD JOINTING METHOD OF STEEL MATERIAL  
SUPERIOR IN ARREST PROPERTY

**Title Terms:** WELD STEEL CRACK ARREST PROPERTIES WELD LINE INCLINE LINE CROSS JOIN  
DIRECTION WELD MATERIAL ORTHOGONAL

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